(19) World Intellectual Property **Organization**

International Bureau



(43) International Publication Date 17 February 2005 (17.02.2005)

PCT

(10) International Publication Number WO 2005/014967 A1

(51) International Patent Classification7: F16L 55/165

E21B 7/30,

(21) International Application Number:

PCT/US2004/025896

- (22) International Filing Date: 9 August 2004 (09.08.2004)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 60/493.957

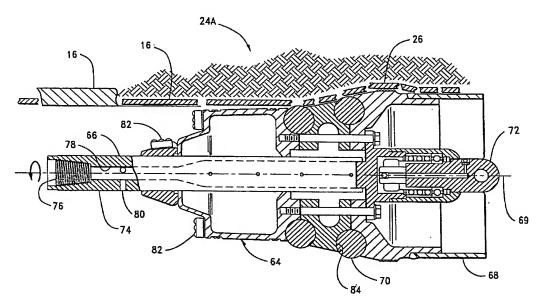
8 August 2003 (08.08.2003)

- (71) Applicant (for all designated States except US): THE CHARLES MACHINE WORKS, INC. [US/US]; 1959 West Fir Avenue, P.O. Box 66, Perry, OK 73077-0066 (US).
- (71) Applicants and
- (72) Inventors: CAROTHERS, Jim [US/US]; Route 2, Box 162B, Perry, OK 73077 (US). SELF, Kelvin, P. [US/US]; 319 Wildwood Acres Drive, Stillwater, OK 74075 (US). MULLINS, Stanley, H. [US/US]; 11301 Frontier, Perry. OK 73077 (US).

- (74) Agent: GRABLE, Lawrence, F.; McKinney & String, P.C., 101 North Robinson, Suite 1300, Oklahoma City, OK 73102 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: PIPE BURSTER WITH SPHERICAL BURSTING MEMBER



(57) Abstract: An apparatus (24) for bursting pipe is preferably adapted to receive energy from a drill string (14). The apparatus has a plurality of spherical pipe-bursting members (70) driven by movement of the drill string to burst an in situ pipe. In a preferred embodiment a single-member drill string is used to drive operation of a plurality of spherical pipe-bursting members disposed about a frame (64) of the apparatus. In other preferred embodiments, rotation of the inner member of s dual-member drill string is used to drive operation of the spherical pipe-bursting members. Spherical pipe-bursting members increase the efficiency of pipe-bursting operations by utilizing rotational energy generated by the movement of the members.

WO 2005/014967 A1



Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.